Complete Summary

GUIDELINE TITLE

EFNS guidelines on neuropathic pain assessment.

BIBLIOGRAPHIC SOURCE(S)

Cruccu G, Anand P, Attal N, Garcia-Larrea L, Haanpaa M, Jorum E, Serra J, Jensen TS. EFNS guidelines on neuropathic pain assessment. Eur J Neurol 2004 Mar;11(3):153-62. [102 references] PubMed

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Neuropathic pain

GUIDELINE CATEGORY

Diagnosis
Evaluation
Technology Assessment

CLINICAL SPECIALTY

Family Practice
Internal Medicine
Neurology

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

- To re-examine the definitions of neuropathic pain proposed by the International Association for the Study of Pain (IASP)
- To evaluate the sensitivity of the various methods of assessing neuropathic pains (e.g., pain quality and intensity scales, quantitative sensory testing [QST], nociceptive reflexes, pain-related evoked-potentials and functional neuroimaging)
- To evaluate the reliability of the above methods in assessing standard treatments
- To propose, if necessary, new experiments that may help to clarify unsolved issues

TARGET POPULATION

Patients presenting with neuropathic pain

INTERVENTIONS AND PRACTICES CONSIDERED

1. Clinical examination and psychophysiological measures
    - Bedside examination (including thorough neurological examination)
    - Quantitative sensory testing (QST)
    - Pain quality and intensity testing using various scales (e.g., visual analogue scale [VAS], numerical rating scale [NRS], verbal rating scale [VRS])
    - Assessment of treatment efficacy including VAS and pain relief scales and quality of life
    - Assessment of quality of life using validated and comprehensive scales (e.g., SF-36 Health Survey or Nottingham Health Profile [NHP])

    Note: Systematic use of non-specific multidimensional scales was considered but not recommended

2. Laboratory tests
    - Nerve conduction studies and somatosensory-evoked potentials
    - Nociceptive reflexes (e.g., RIII flexion reflex)
    - Laser-evoked potentials
    - Functional neuroimaging
    - Punch skin biopsy

    Note: Microneurography was considered but not recommended

MAJOR OUTCOMES CONSIDERED

Usefulness and sensitivity of tests and procedures for evaluation of neuropathic pain and assessment of treatment efficacy

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The Task Force systematically searched the Medline database from 1986 (i.e., the year when International Association for the Study of Pain [IASP] published the first "Classification of chronic pain"), although for some issues the search went back to the 1960s and also used major textbooks and existing guidelines on some partial issues.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Evidence Classification Scheme for a Diagnostic Measure

Class I: A prospective study in a broad spectrum of persons with the suspected condition, using a "gold standard" for case definition, where the test is applied in a blinded evaluation, and enabling the assessment of appropriate tests of diagnostic accuracy

Class II: A prospective study of a narrow spectrum of persons with the suspected condition, or a well-designed retrospective study of a broad spectrum of persons with an established condition (by "gold standard") compared to a broad spectrum of controls, where test is applied in a blinded evaluation, and enabling the assessment of appropriate tests of diagnostic accuracy

Class III: Evidence provided by a retrospective study where either persons with the established condition or controls are of a narrow spectrum, and where test is applied in a blinded evaluation

Class IV: Any design where test is not applied in blinded evaluation OR evidence provided by expert opinion alone or in descriptive case series (without controls)

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

For each specific issue, the Task Force stored all the articles sorted by the Medline search, omitted those that resulted not to be pertinent, read and rated the remaining articles according to the guidance for European Federation of Neurological Societies (EFNS) guidelines whenever applicable. In some instances, such as statements generally accepted or proved by basic neuroscience, the Task Force did not give any evidence level.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus (Consensus Development Conference)

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The Task Force reported its results in a Consensus conference, which was held in Lisbon, 20–22 March 2003. All the European national delegates to the European Federation of Neurological Societies (EFNS) Panel on Neuropathic Pain were invited. Discussion groups with Task Force members and attendants resulted in a revised version, which is presented in the original guideline document.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Rating of Recommendations

Level A rating (established as useful/predictive or not useful/predictive) requires at least one convincing class I study or at least two consistent, convincing class II studies.

Level B rating (established as probably useful/predictive or not useful/predictive) requires at least one convincing class II study or overwhelming class III evidence.

Level C rating (established as possibly useful/predictive or not useful/predictive) requires at least two convincing class III studies.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The guidelines were validated according to the European Federation of Neurological Societies (EFNS) criteria (Hughes RAC, Barnes MP, Baron J, Brainin M

[2001]. Guidance for the preparation of neurological management guidelines by EFNS scientific task forces. *Eur J Neurol* 8:549-550).

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The levels of evidence (class I-IV) supporting the recommendations and ratings of recommendations (A-C) are defined at the end of the "Major Recommendations" field.

Definitions

Testing the validity of a narrow versus a broad definition of neuropathic pain (see the original guideline document for pain definitions) should be a major goal for future studies. In the meanwhile, however, the guideline developers suggest the narrow definition and classification is retained, because of risk of overestimating neuropathic pain and because it is easy to understand (**grade C recommendation**).

Clinical Examination and Psychophysiological Measures

Bedside Examination

Although there are no validated studies on bedside examination, the guideline developers emphasize that in pain patients a thorough neurological examination is invaluable—the sensory testing being the most important part of it—and is preliminary to any quantitative assessment (**grade C recommendation**).

Quantitative Sensory Testing

Because also found in non-neuropathic pains, quantitative sensory testing (QST) abnormalities cannot be taken as a conclusive demonstration of neuropathic pain; furthermore, QST depends on expensive equipment, it is time consuming and thus difficult to use in clinical practice (**grade B recommendation**). QST is helpful to quantify the effects of treatments on allodynia and hyperalgesia and may reveal a differential efficacy of treatments on different pain components (**grade A recommendation**). To evaluate mechanical allodynia/hyperalgesia, the guideline developers recommend the use of simple tools such as a brush and at least one high-threshold von Frey filament. The evaluation of pain in response to thermal stimuli is best performed using the thermotest, but the systematic measure of thermal stimuli is not recommended except for pathophysiological research or treatment trials. A simple and sensitive tool to quantify pain induced by thermal stimuli in clinical practice should be developed.

Pain Quality and Intensity Scales

It is recommended to rate the intensity and the unpleasantness of pain separately. The intensity of the different pain components that the patient may report (spontaneous ongoing pain, spontaneous paroxysmal pain, dysesthesiae, and paresthesiae) or the evoked pains (allodynia and hyperalgesia), and pain

worsening with movement, should be rated separately, but using the same scale. If different pain components involve different territories, these can be documented on a template body map. The simplest scales are probably the best. Whereas verbal rating scale (VRS) is found easier by many patients, visual analogue scale (VAS) is more apt to treatment trials because it permits parametric statistics. The 11-point Likert numerical rating scale (NRS) is a good compromise (**grade C recommendation**).

Methods Specifically Designed to Assess Treatment Efficacy

All the psychometric instruments assessing treatment in neuropathic pain have been shown sensitive in several randomized controlled trials (**level Ib**). The guideline developers recommend the use of unidimensional pain scales, particularly the VAS and pain relief scales and the evaluation of specific pain symptoms (such as burning pain, pain paroxysms, or allodynia) as this may reveal preferential effects of treatments. The guideline developers do not favour the systematic use of nonspecific multidimensional scales (e.g., McGill Pain Questionnaire [MPQ]). Although interesting, the multidimensional scales specific for neuropathic pain still lack extensive validation.

Other Outcome Measures

In clinical studies, quality of life (QoL) should be assessed with a validated and comprehensive scale such as SF-36 Health Survey (SF-36) or Nottingham Health Profile (NHP). Mood, sleep, anxiety, and depression, if not included in the chosen QoL measure, should be assessed separately (**grade C recommendation**).

Laboratory Tests

Standard Electrodiagnostic Studies

Standard neurophysiological responses to electrical stimuli, such as nerve conduction studies and somatosensory-evoked potentials, are useful to demonstrate, locate, and quantify damage along the peripheral or central sensory pathways. But they do not assess function of nociceptive pathways (**grade A recommendation**).

Nociceptive Reflexes

The electrically elicited trigeminal reflexes (blink reflex and masseter inhibitory reflex) are diagnostically useful to differentiate essential trigeminal neuralgia from symptomatic trigeminal pains (**grade A recommendation**). The other nociceptive reflexes have little diagnostic value (**grade C statement**). The nociceptive reflex that is most used and appears to be most reliable in assessing treatment efficacy is the RIII flexion reflex (**grade B recommendation**).

Laser-Evoked Potentials

The laser-evoked potentials (LEPs) are the easiest and most reliable neurophysiological method of assessing function of nociceptive pathways; in clinical practice their main limit is that they are currently available in too few

centres. Late LEPs (which assess A-delta pathways) are diagnostically useful in peripheral and central neuropathic pains (**grade B recommendation**). The experience as a tool for assessing treatments is so far insufficient. More studies on ultralate LEPs in patients with neuropathic pain are encouraged.

Functional Neuroimaging

There is converging evidence that chronic spontaneous neuropathic pain is associated with decreased activity in contralateral thalamus, whereas provoked neuropathic pain is associated with increased activity in the thalamic, insular, and somatosensory regions (**grade B statement**).

In view of the potential relevance of these data, the guideline developers encourage functional neuroimaging studies in patients with neuropathic pain.

Biopsy

Often a cause for underlying neuropathy may not be found despite extensive investigations, and careful evaluation is needed before such cases are considered as idiopathic or "psychogenic." Punch skin biopsy, which can detect changes when sural nerve biopsy is still normal, is emerging as a minimally invasive tool for detecting small fibre involvement; in pain patients it should be preferred to nerve biopsy (**grade B recommendation**).

Definitions:

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CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for selected recommendations (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate assessment of neuropathic pain

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

This guideline provides the view of an expert task force appointed by the Scientific Committee of the European Federation of Neurological Societies (EFNS). It represents a peer-reviewed statement of minimum desirable standards for the guidance of practice based on the best available evidence. It is not intended to have legally binding implications in individual cases.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

The European Federation of Neurological Societies has a mailing list and all guideline papers go to national societies, national ministries of health, World Health Organisation, European Union, and a number of other destinations. Corporate support is recruited to buy large numbers of reprints of the guideline papers and permission is given to sponsoring companies to distribute the guideline papers from their commercial channels, provided there is no advertising attached.

IMPLEMENTATION TOOLS

Staff Training/Competency Material

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2004 Mar

GUIDELINE DEVELOPER(S)

European Federation of Neurological Societies - Medical Specialty Society

SOURCE(S) OF FUNDING

European Federation of Neurological Societies

GUIDELINE COMMITTEE

European Federation of Neurological Societies Task Force

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available to registered users from the European Federation of Neurological Societies Web site.

Print copies: Available from Prof. Giorgio Cruccu, Dipartimento Scienze Neurologiche, viale Universitá 30, 00185 Roma, Italy; Phone: +39 06 4991 4718; Fax: +39 06 4991 4758; E-mail: cruccu@uniroma1.it

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Brainin M, Barnes M, Baron JC, Gilhus NE, Hughes R, Selmaj K, Waldemar G; Guideline Standards Subcommittee of the EFNS Scientific Committee. Guidance for the preparation of neurological management guidelines by EFNS scientific task forces – revised recommendations 2004. Eur J Neurol. 2004 Sep;11(9):577-81. Electronic copies: Available in Portable Document Format (PDF) from the European Federation of Neurological Societies Web site.
- Guideline papers. European Federation of Neurological Societies. Electronic copies: Available from the European Federation of Neurological Societies Web site.
- Continuing Medical Education questions available from the European Journal of Neurology Web site.

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on December 4, 2006. The information was verified by the guideline developer on December 29, 2006.

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